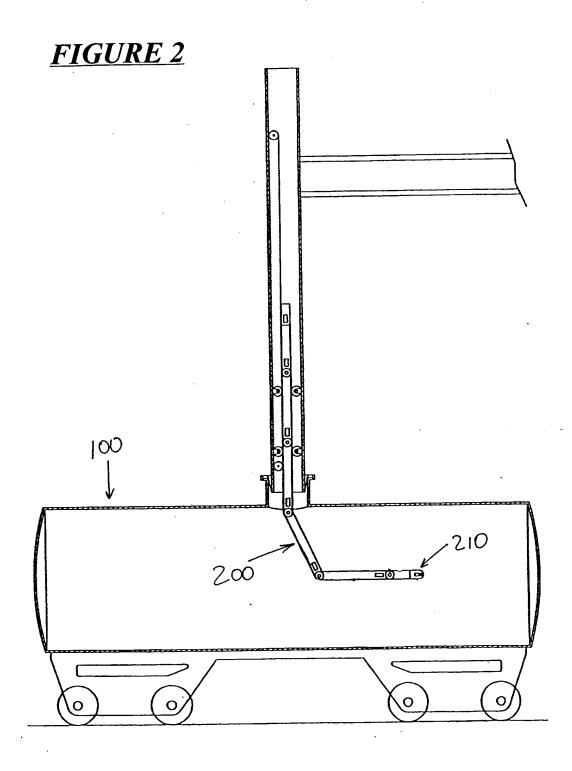
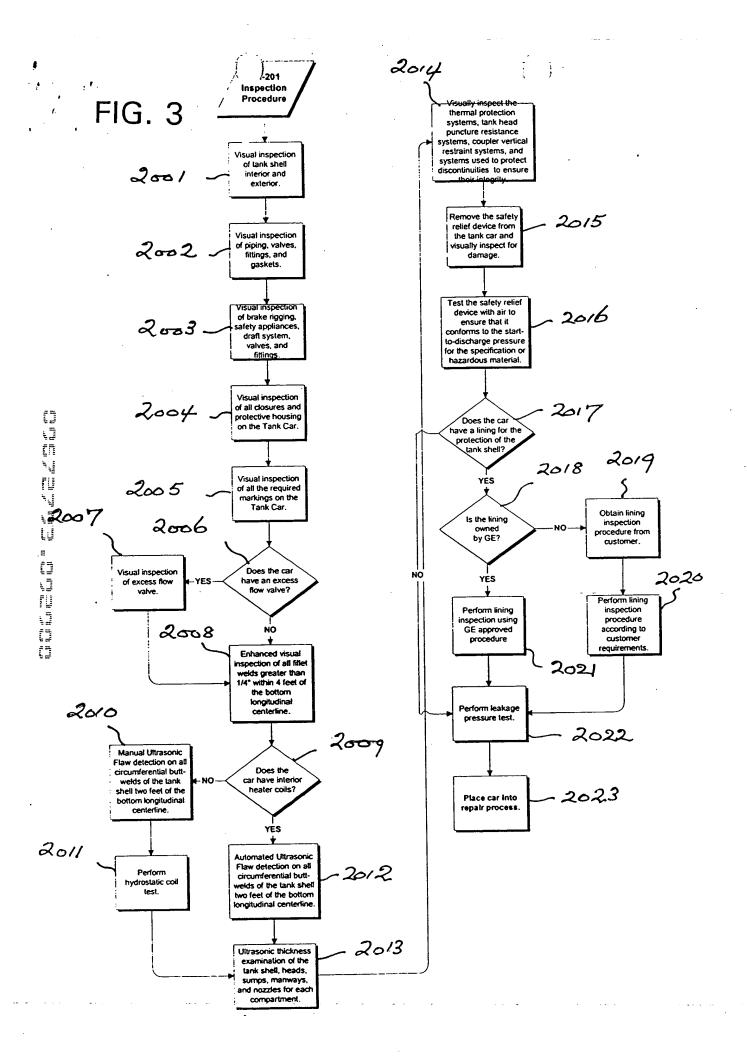
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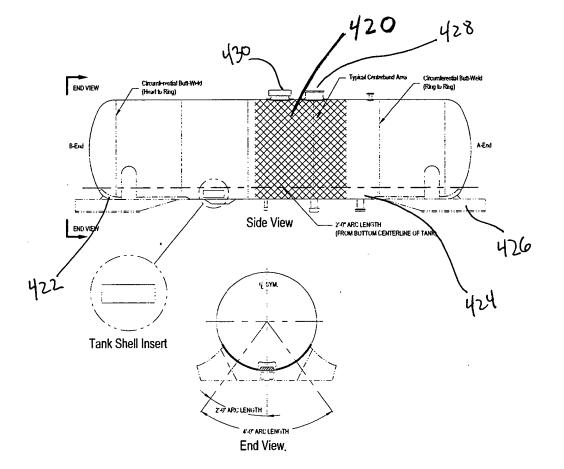


FIGURE 4B

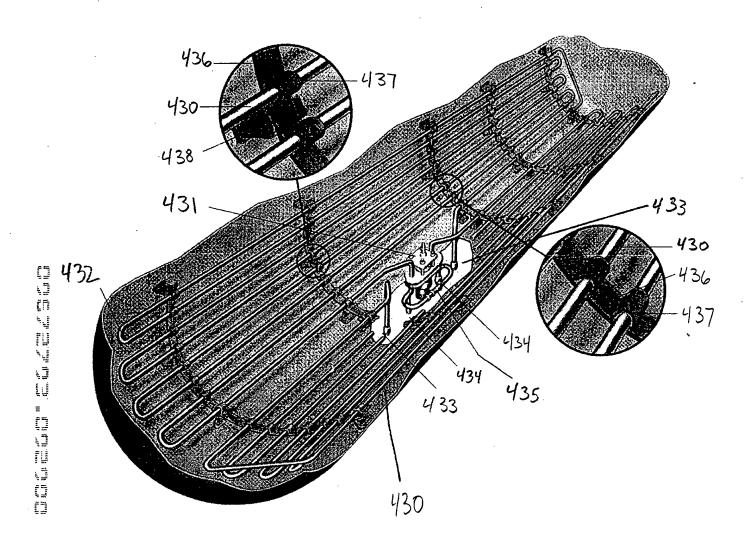


FIGURE 4C

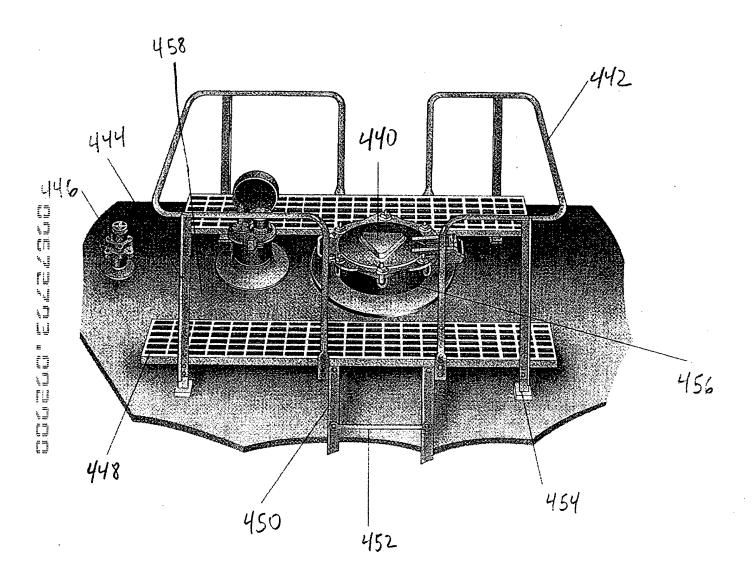


FIGURE 4D

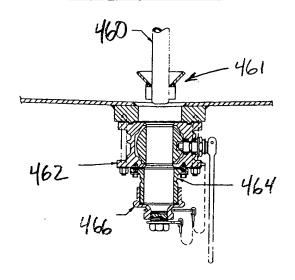


FIGURE 4E

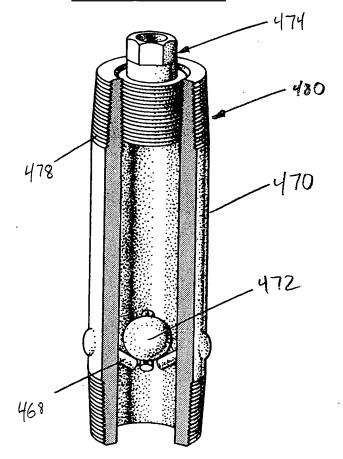


FIGURE 4F

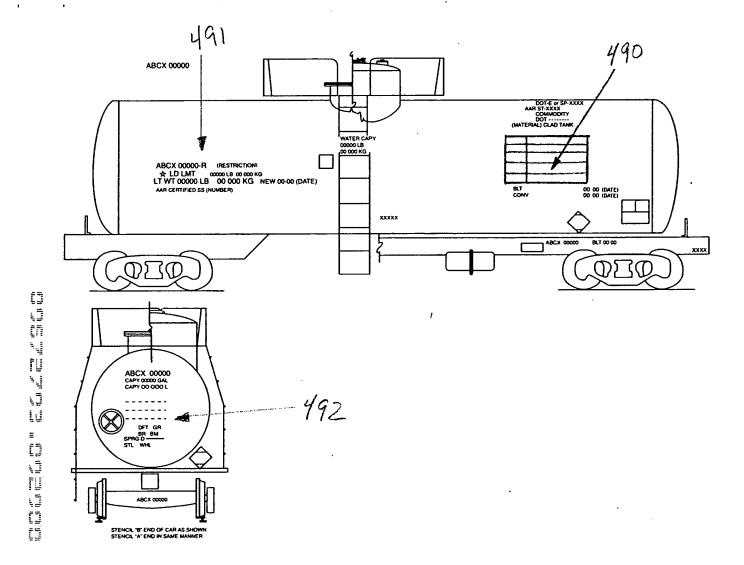


FIGURE 4G

		41 3/4"		
A		STATION STENCIL	QUALIFIED	DUE
17 1/4"	TANK QUALIFICATION			
	SERVICE EQUIPMENT			
	(1a) (1b) (2a) (2b)			
	COATING/LINING		-	
	TYPE (3a)		; I	
	DATE APPLIED (3b)			
1	88.B.2 INSPECTION			

FIGURE 5A

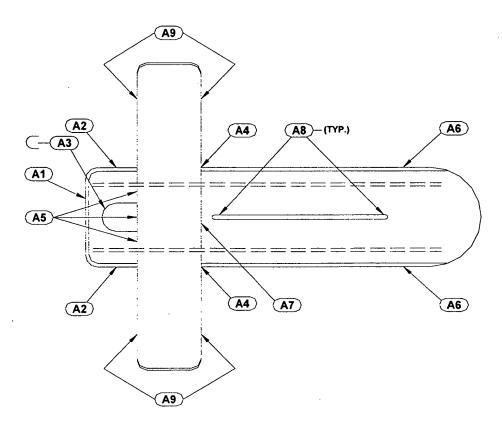


FIGURE 5B

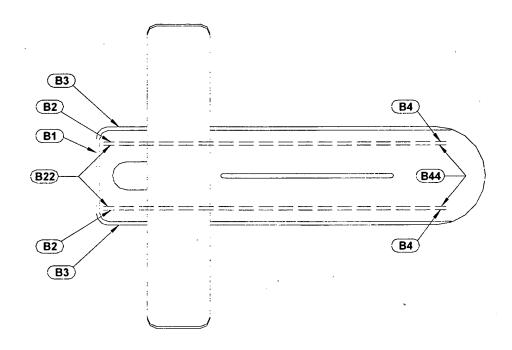


FIGURE 5C

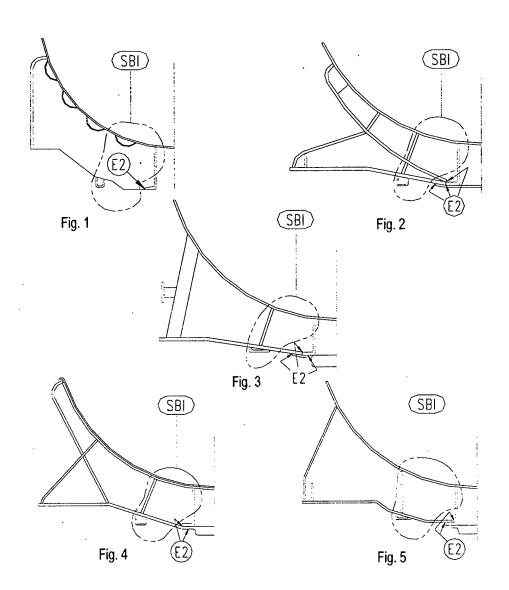


FIGURE 5D

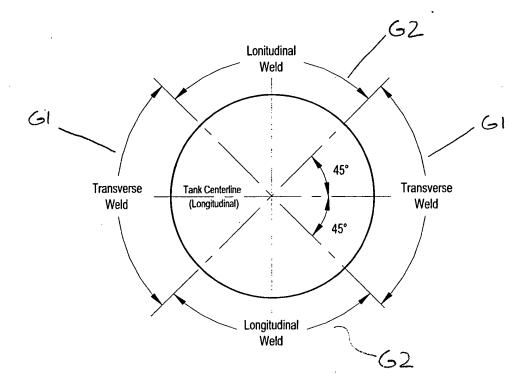


FIGURE 5E

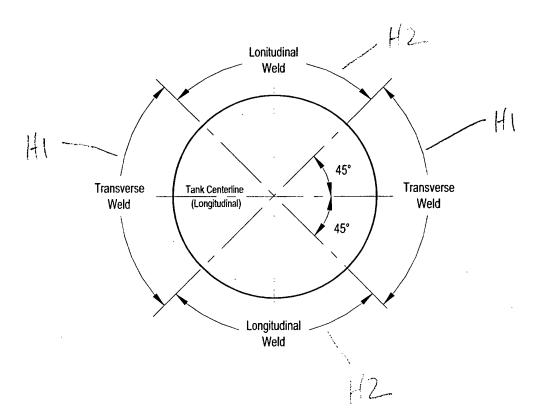


FIGURE 5F

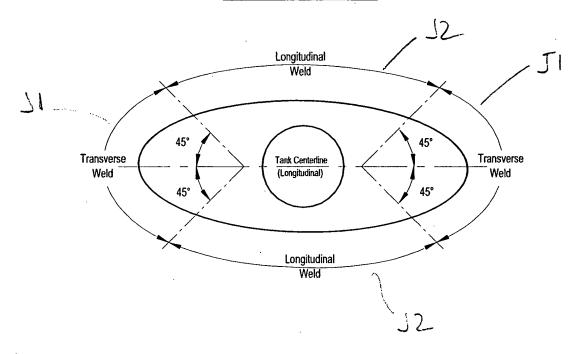


FIGURE 5G

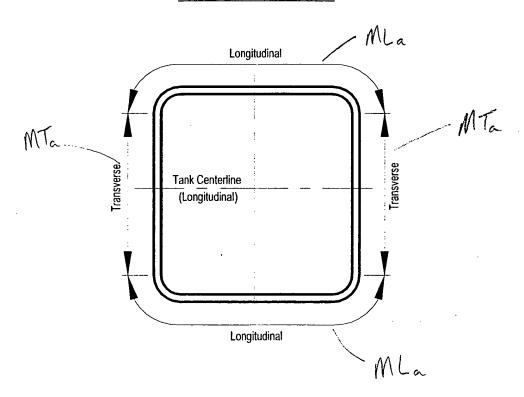
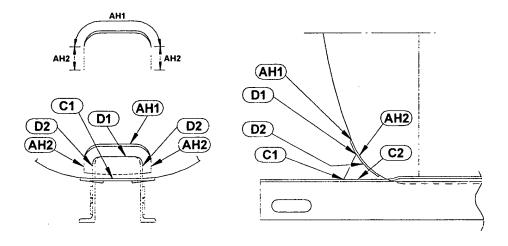
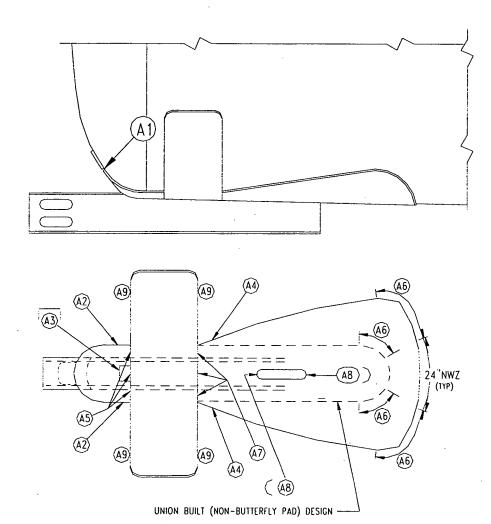


FIGURE 5H



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deright green names are served to the served of the served



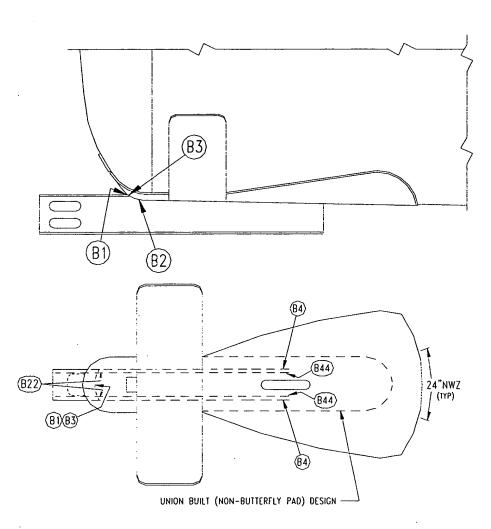


FIGURE 6C

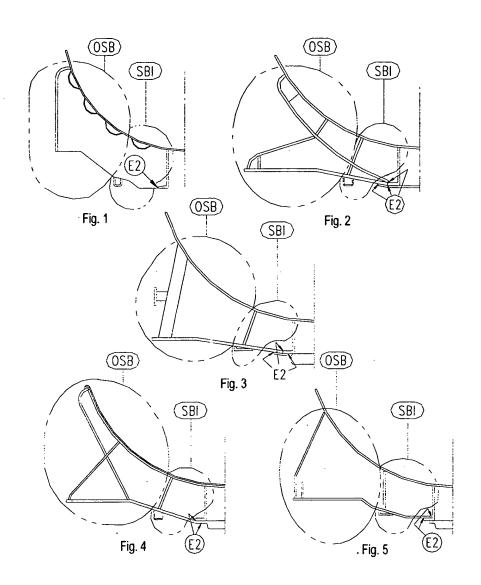


FIGURE 6D

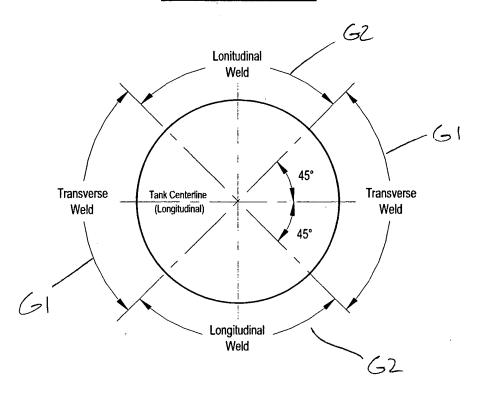


FIGURE 6E

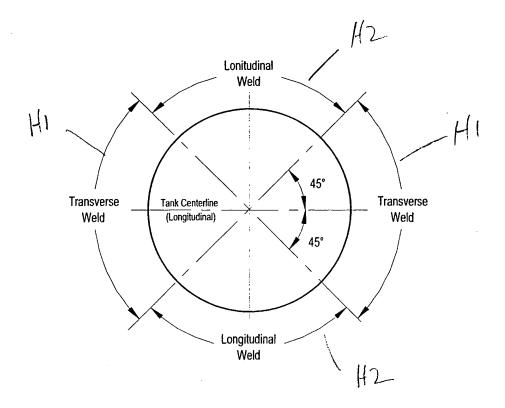


FIGURE 6F

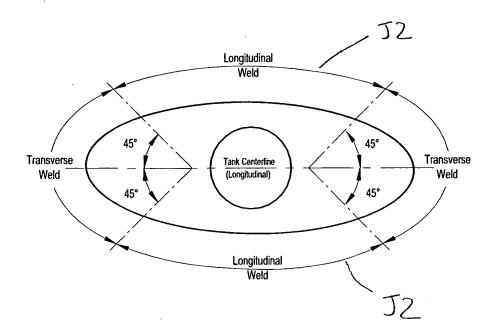
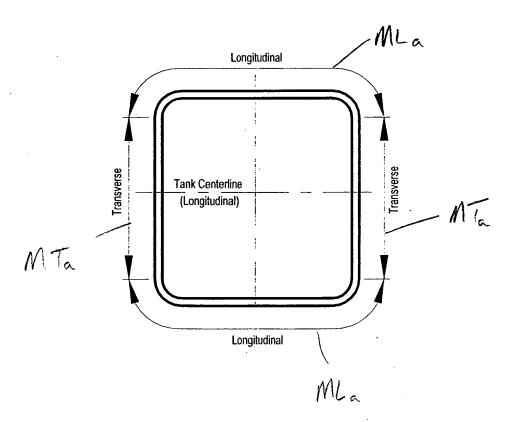


FIGURE 6G



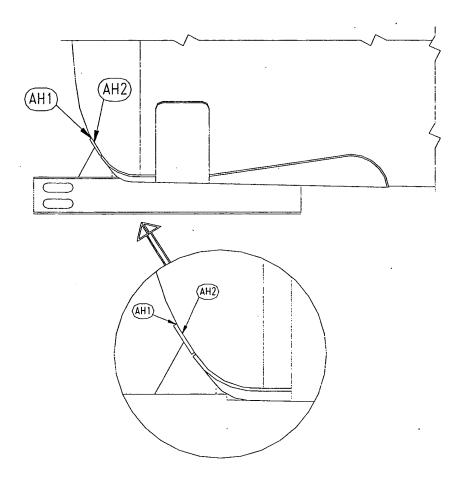
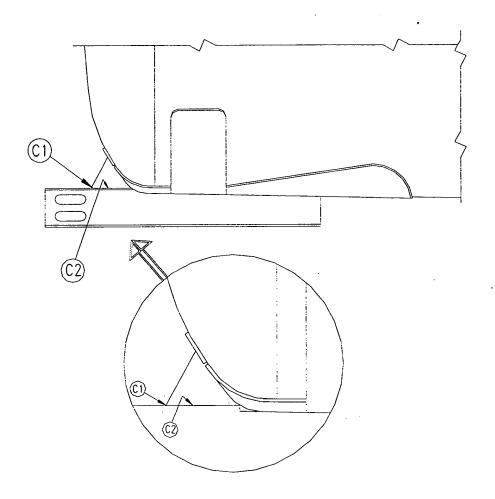
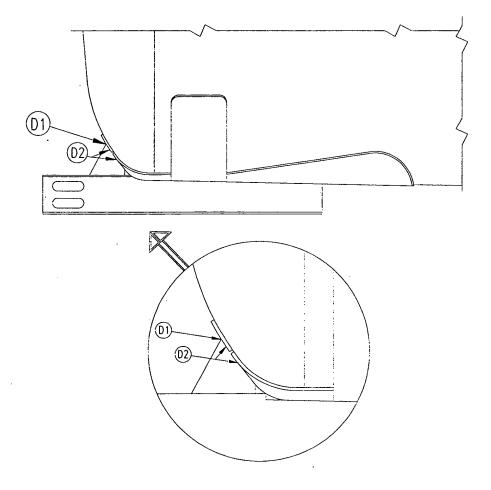


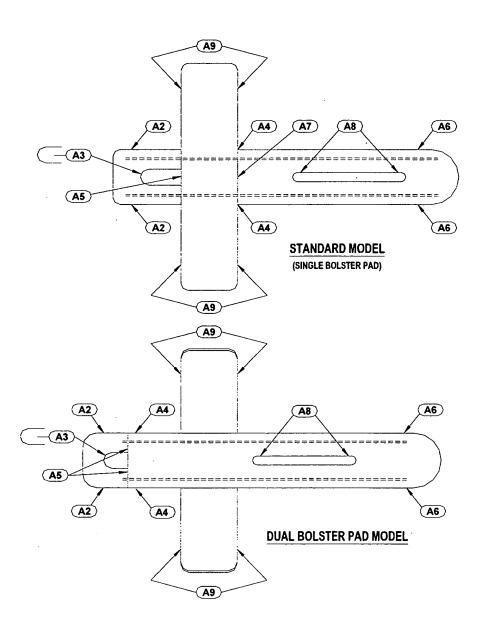
Figure 6I

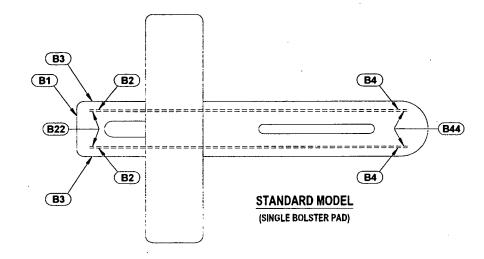


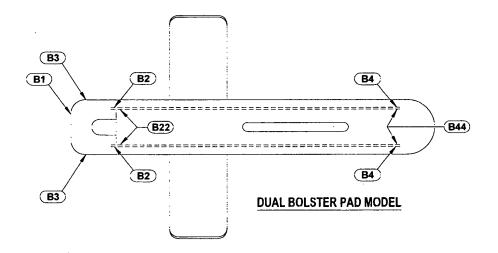


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Figure 7A







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Figure 7C

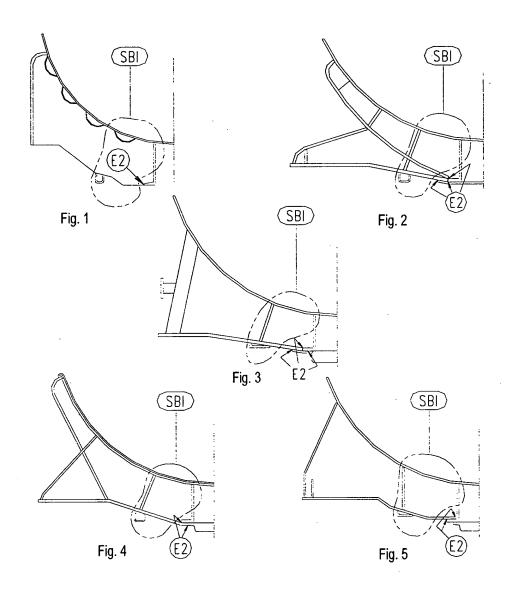


Figure 7D

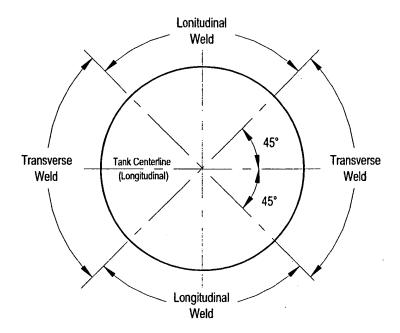


Figure 7E

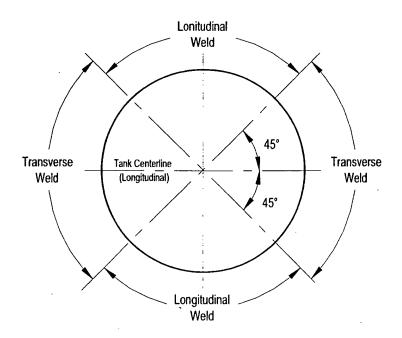


Figure 7F

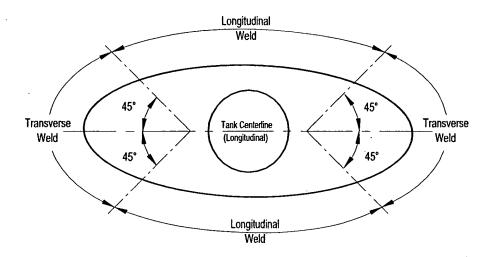
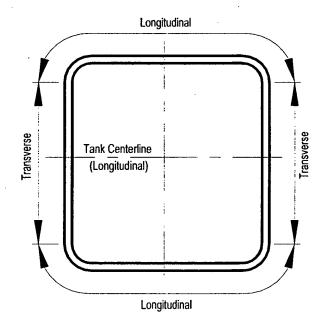
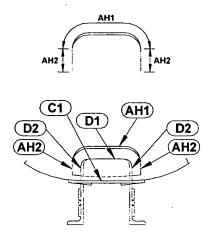
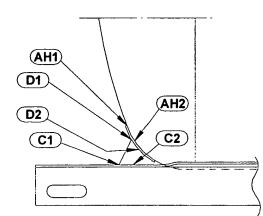


Figure 7G







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Figure 8A

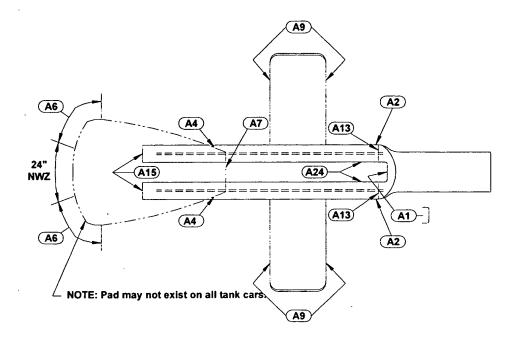


Figure 8B

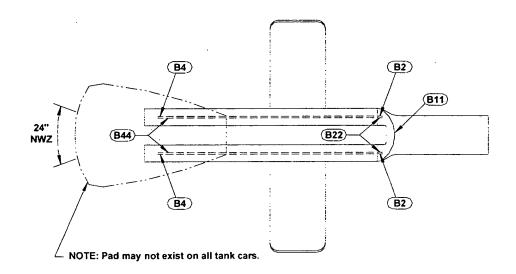


Figure 8C

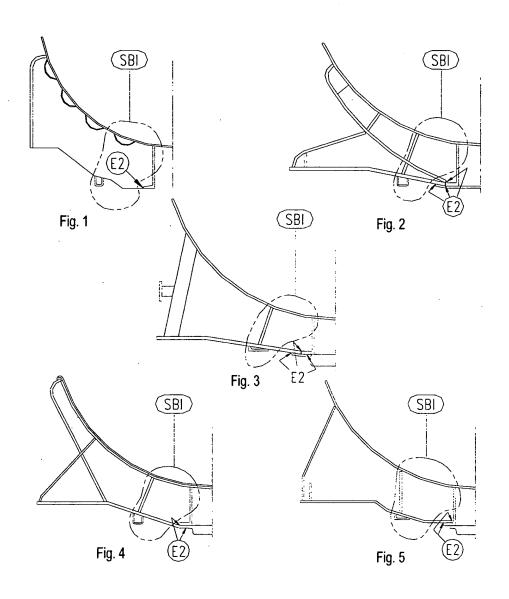
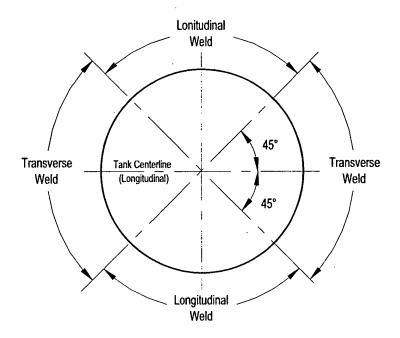


Figure 8D



<u>Figure 8E</u>

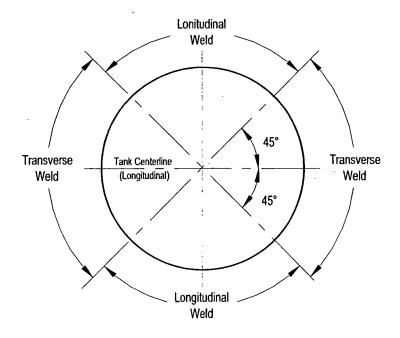


Figure 8F

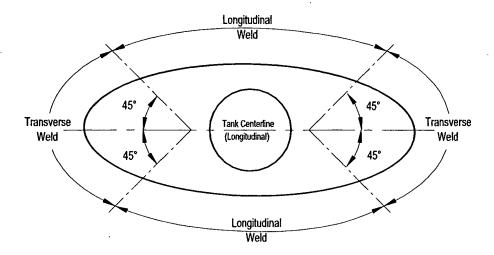


Figure 8G

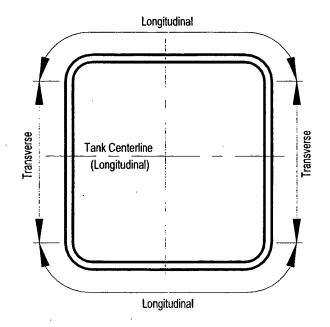
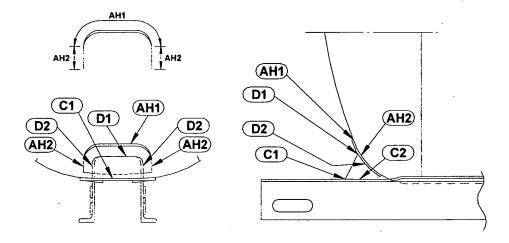


Figure 8H



the terms are several are great that the terms of the terms are several tools and

Figure 9A

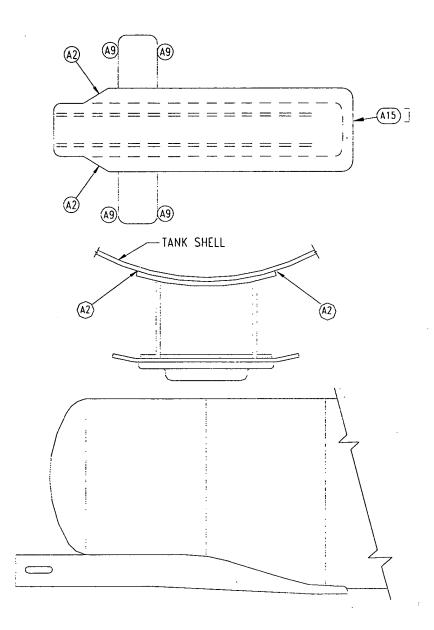


Figure 9B

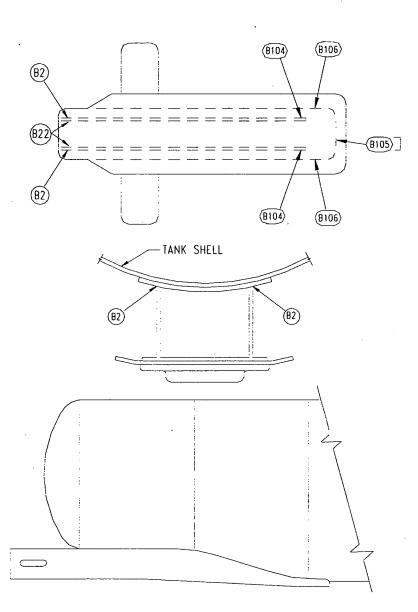
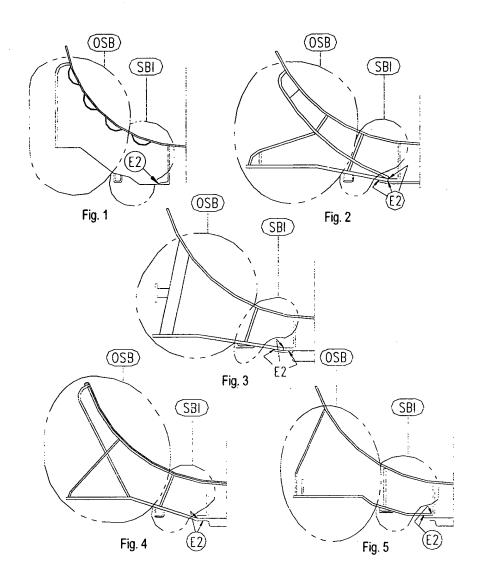
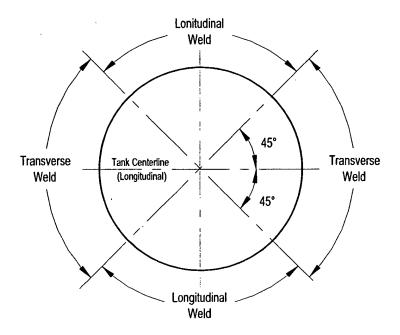


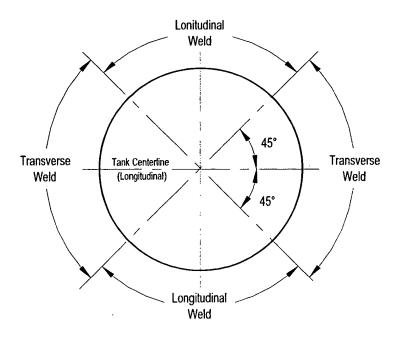
Figure 9C



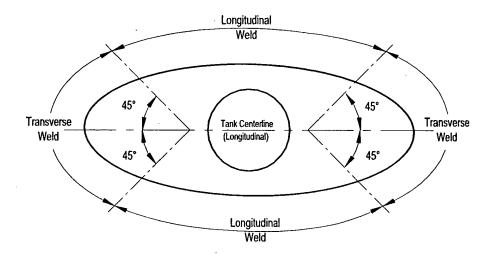
<u>Figure 9D</u>



<u>Figure 9E</u>



<u>Figure 9F</u>



<u>Figure 9G</u>

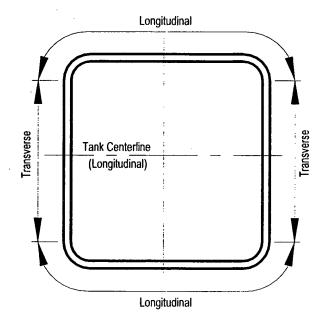


FIGURE 10A

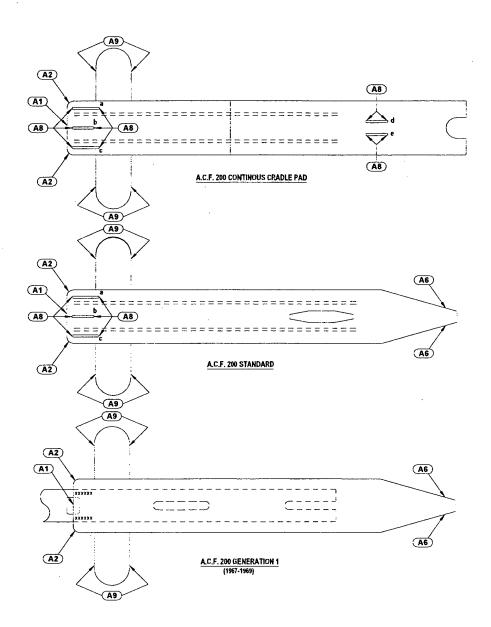


FIGURE 10B

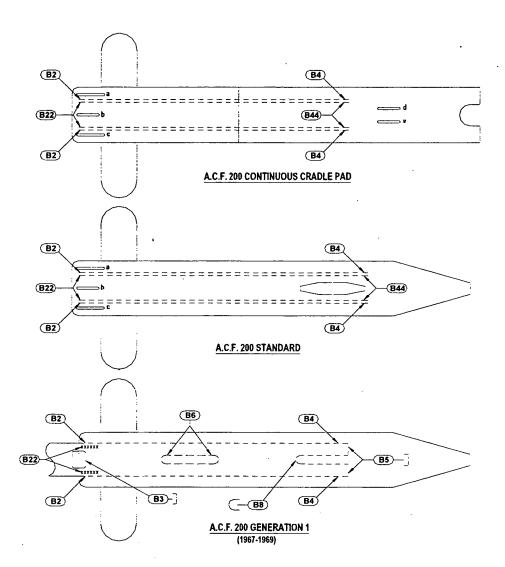


FIGURE 10C

:)

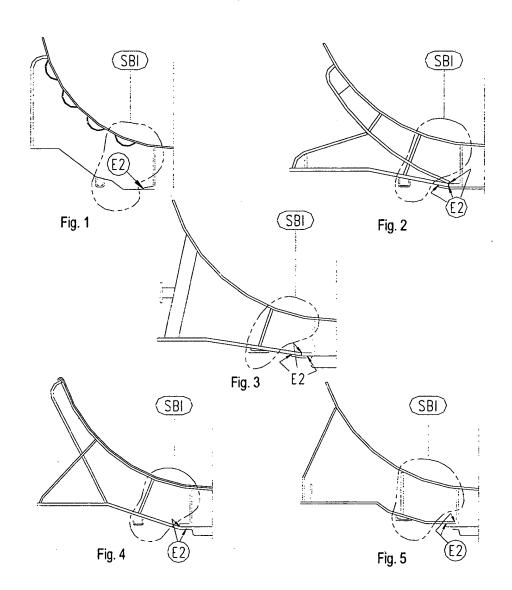


FIGURE 10D

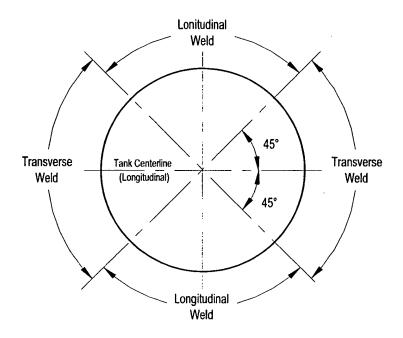


FIGURE 10E

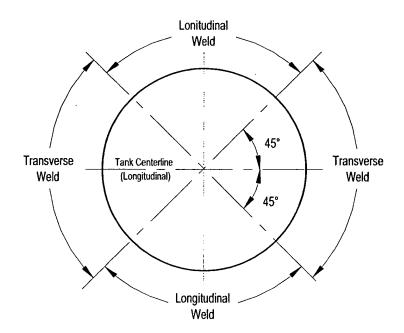


FIGURE 10F

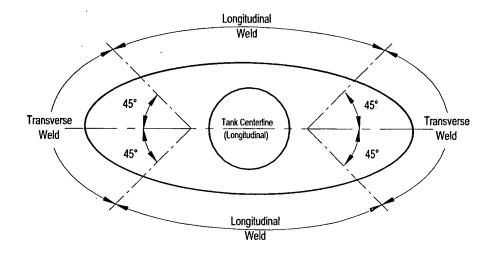


FIGURE 10G

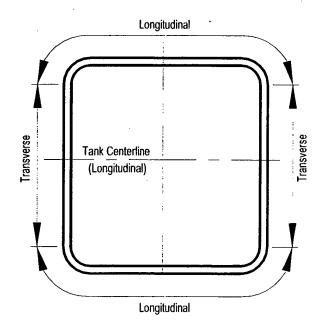
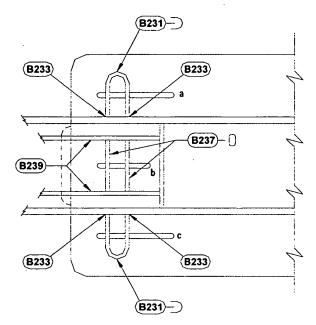
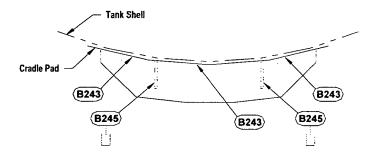


FIGURE 10H



NOTE: Outboard of bolster, wing bar not shown for clarity.



NOTE: Inboard of bolster at end of cradle pad, looking outboard.

FIGURE 10I

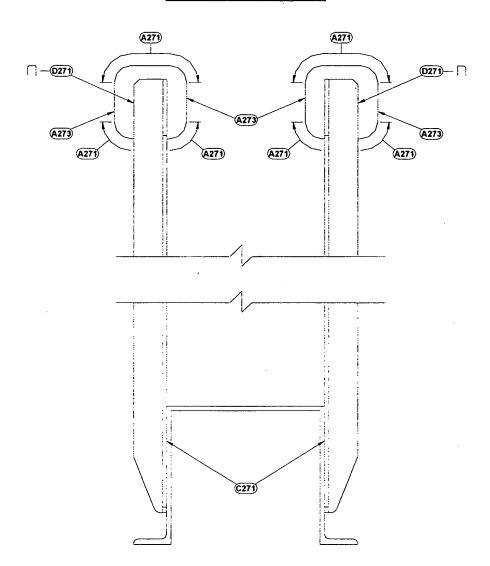
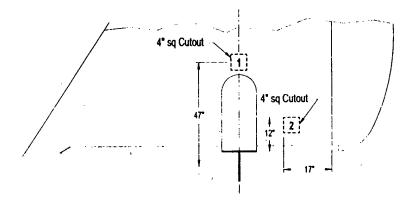


Figure 10J



Drawings Not To Scale Jacket Removed for Clarity

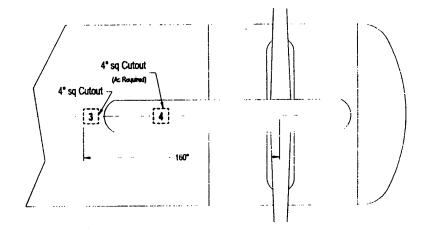


FIGURE 11A

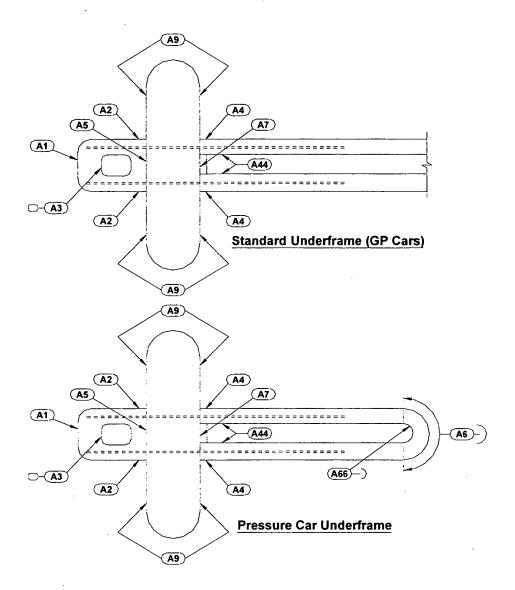
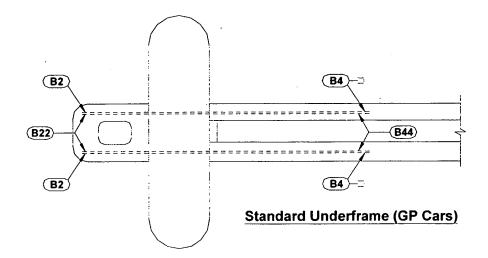


FIGURE 11B



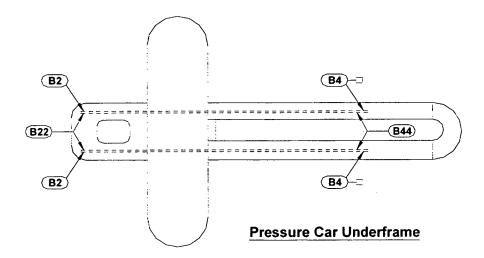


FIGURE 11C

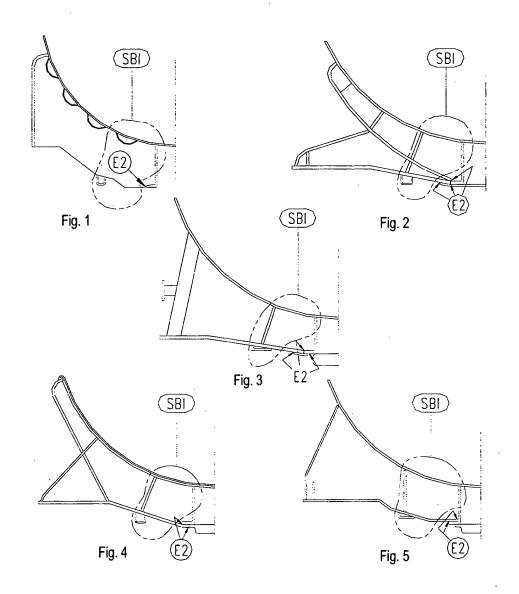


FIGURE 11D

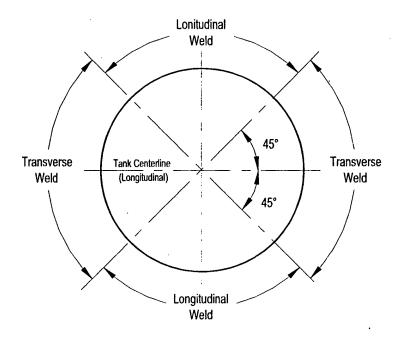


FIGURE 11E

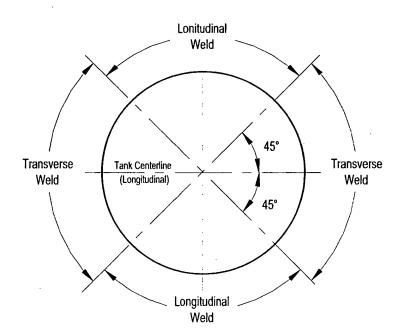


FIGURE 11F

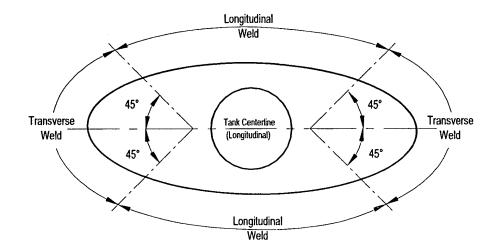


FIGURE 11G

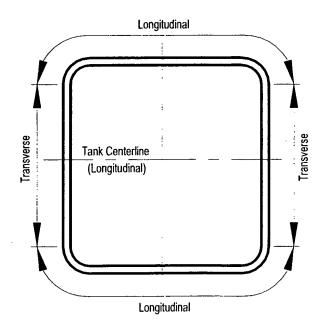


FIGURE 11H

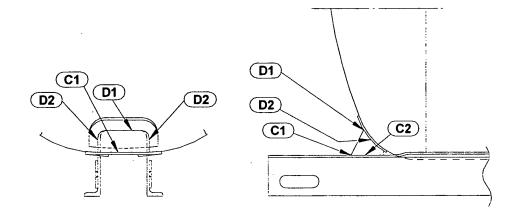
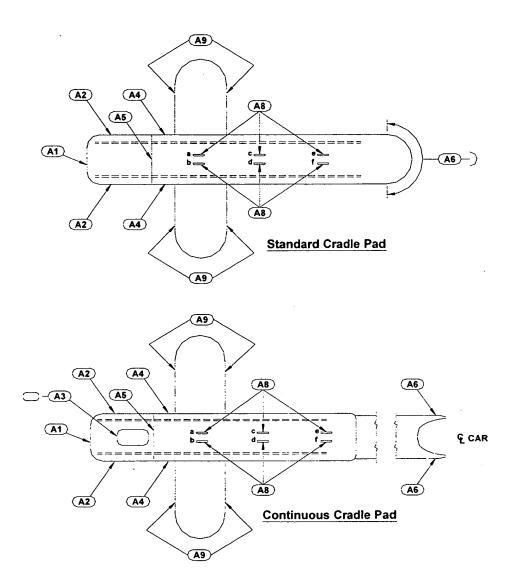
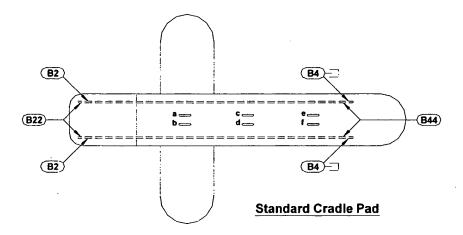
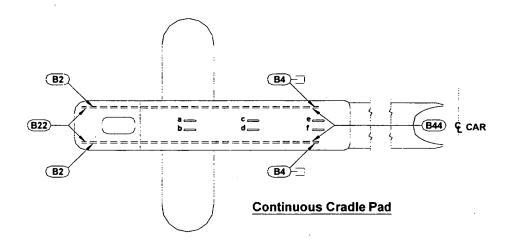


FIGURE 12A







time the state of the state of

FIGURE 12C

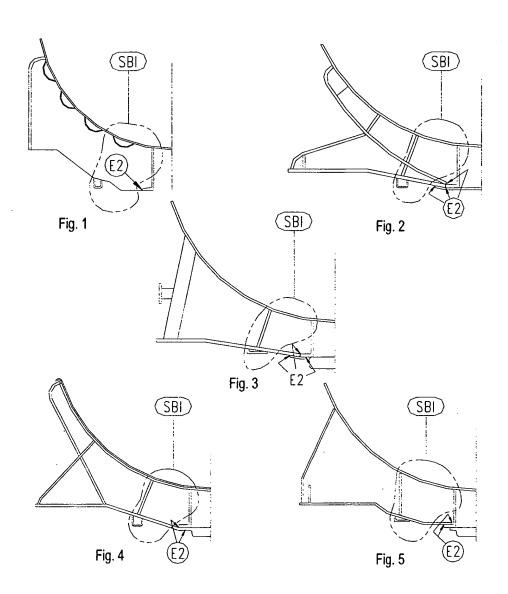


FIGURE 12D

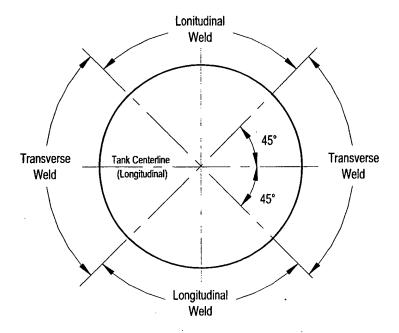
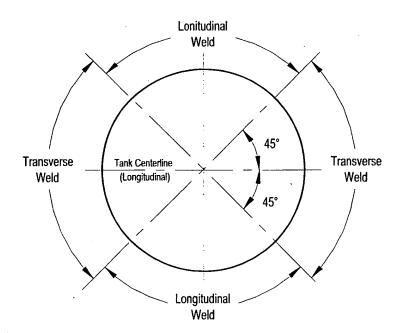


FIGURE 12E



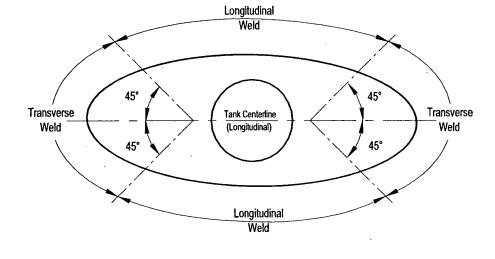


FIGURE 12G

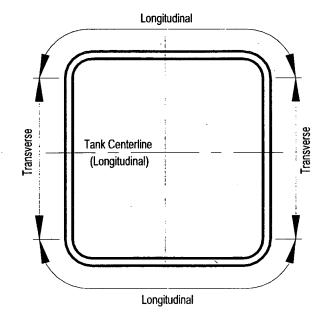
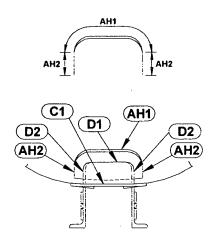
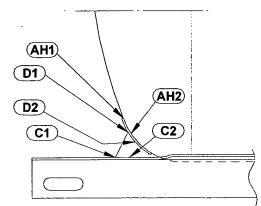


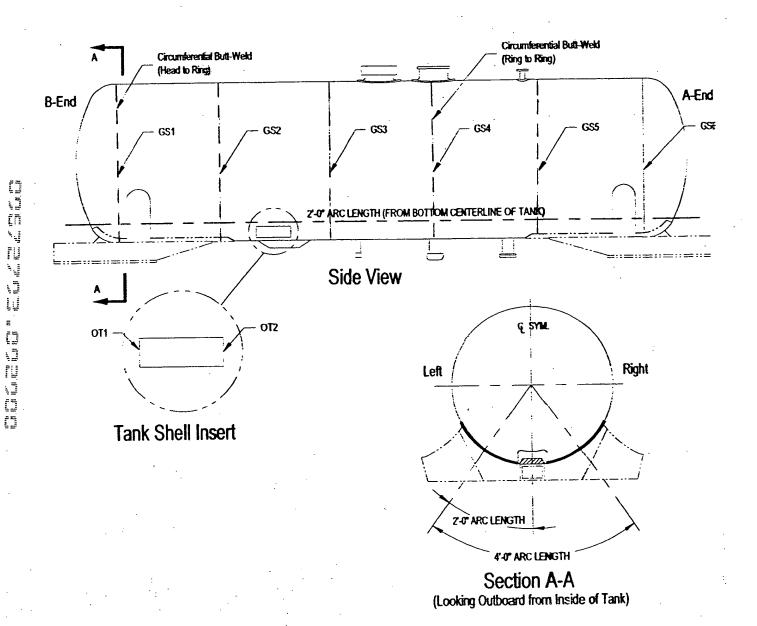
FIGURE 12H





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FIGURE 13A



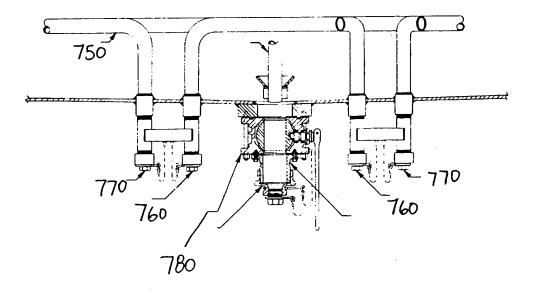
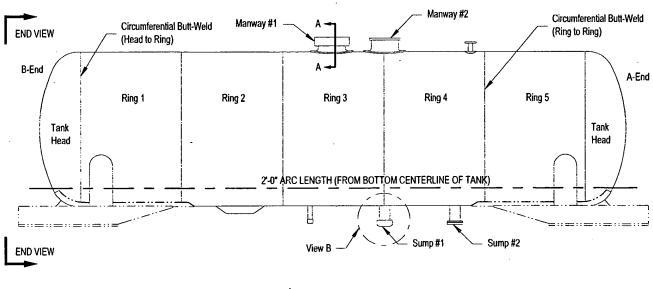


FIGURE 14A



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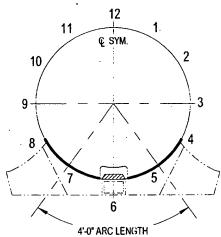
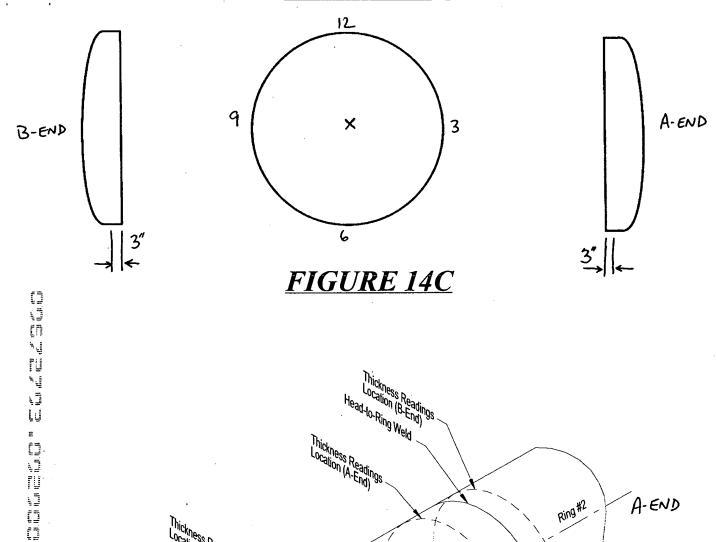


FIGURE 14B



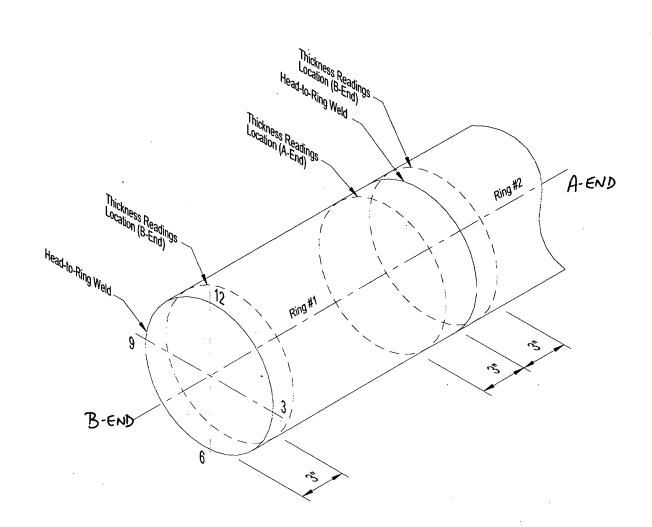


FIGURE 15A

ALLOWABLE SAFETY RELIEF VALVE PRESSURE TOLERANCES

Nominal STD ¹ (psig)	Tolerance (+/-) ⁴ (psig)	Minimum STD ¹ (psig)	Maximum STD ¹ (psig)	Minimum VTP ² (psig)	Gauge Range⁵ (psig)	Maximum Gauge Increment⁵ (psig)
35	3	32	38	28	0-100	1
75	3	72	78	60	0-150/160	1
150	4.5	145.5	154.5	120	0-300	2
225	6.75	218.25	231.75	180	0-400	5
247.5	7.4	240.1	254.9	196	0-400	5
255	7.7	247.3	262.7	204	0-400	5
280.5	8.4	272.1	288.9	224	0-500	5
300	9	291	309	240	0-500	5
330	10	320	340	264	0-500	5
375	11.25	363.75	386.25	300	0-600	10
450	13.5	436.5	463.5	360	0-750	10

NOTES:

- 1. STD indicates start-to-discharge.
- 2. VTP indicates vapor-tight pressure.
- 3. Valves should be set or reset to NOMINAL STD pressure.

- 4. DOT requirements for tolerances are given in 49CFR173.31(c)(6). Pressure tolerances listed above have been shown here to assist testing personnel and are not intended to alter any DOT requirements.
- 5. Digital or dial gauges of greater range may be used if accuracy and sensitivity levels are equal to or better than required above.

FIGURE 15B

TYPICAL INTERNAL STYLE SAFETY RELIEF VALVE

Midland A-1075-JVP Design

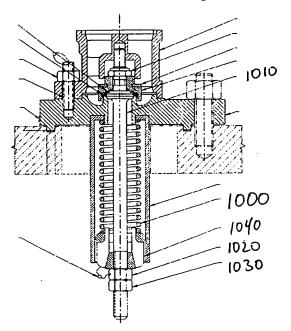


FIGURE 15C

TYPICAL TOP MOUNTED SAFETY RELIEF VALVE

Midland A-1435 Design

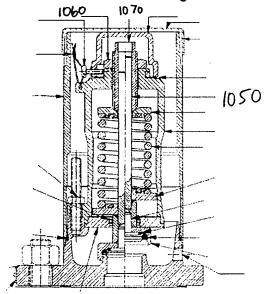


FIGURE 15D

TYPICAL SAFETY VENT Midland A-424 Design

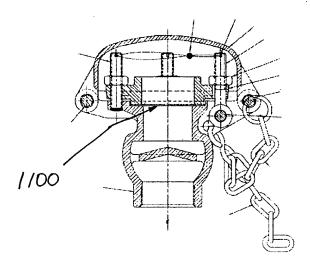
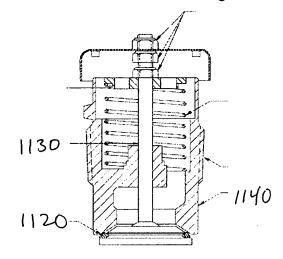


FIGURE 15E

VACUUM RELIEF VALVE

Midland A-208-W-10 Design



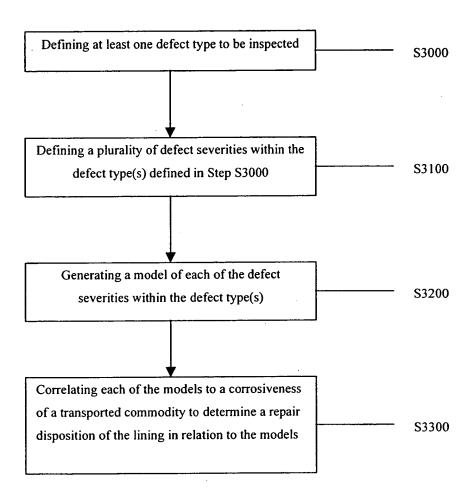


Figure 16

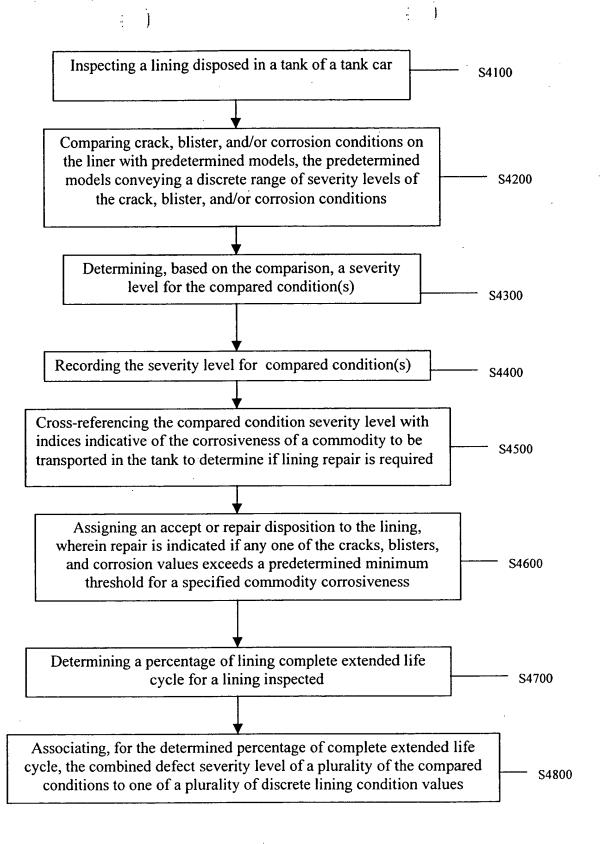


Figure 17

then there are men are noted in time are then then the then the transfer of th

0095					(4.) (4.)	2050	
		•		\	\	÷	2630
	F	TABLE 1: Accept/Repair Disposition	ept/Rei	pair Dis	spositio	E .	
Ł				Col	modity	Commodity Conrosiveness	eness
	Defect	Condition	۹. وز	9	4	ຸຕ	2
10	Cracks	8	R	8	4	А	4
) 		9	ᄶ	2	8	Ą	A
	1	4	R	8	8	R	ጸ
	Blisters	8	R	∢	4	А	4
3610		9	8	4	4	Ą	4
		4	R.	8	4	A	A
·.		2	ద	ಜ	R	8	A
	Corrosion	REI	8	ಜ	R	А	A
		RE2	8	K.	ж	А	4
		RE3	8	R	<u>ي</u>	A	A

i.

Figure 18b Lining System Operating Characteristics

Estimatèd Life	8 years	r 8 years	7 years	7 years	7 years	8 years	6 years	12 years
Failure Criteria	Cracking due to mechanical impact (direct or reverse), temperature cycling or vibration. Hydrogen grooving of steel under coating in highly concentrated sulfuric acid.	Cracking due to mechanical impact (direct or reverse), temperature cycling or vibration.	Becomes brittle on aging. May blister in unsuitable chemicals. May crack under impact and bending.	Becomes brittle on aging. May blister and/or soften in certain chemicals. May crack under impact and bending.	Becomes brittle on aging, May blister and/or soften in certain chemicals. May crack under impact and bending	Becomes slightly brittle with aging. May slightly soften in certain solvents. Better Crack and Impact Resistant	Becomes slightly brittle with aging. May blister or soften in certain solvents Fair Crack and Impact Resistant.	Oxidizing chemicals may attack the sheet lining and embrittle. Sheets may loose adhesion. Welds may deteriorate (corrosion)
Recommended Service	Organic and Inorganic Acids (concentrated and diluted) Less suitable for strong Alkalis Resistant against most Solvents Can be used for Food Grade Chemicals	Diluted Organic and Inorganic Acids Good resistance against strong Alkalis Can be used for Food Grade Chemicals Resistant to most Solvents	Diluted Organic and Inorganic Acids Very good resistance against hot alkalis Good Solvent Resistance	Diluted, non oxidizing Inorganic Acids Very good resistance against hot alkalis Good Solvent Resistance	Acidity not lower than pH 2 Very good Alkali Resistance Good Solvent Resistance	Diluted, non oxidizing Inorganic Acids Very good resistance against Alkalis Good Solvent Resistance	Good resistance against diluted alkalis Resistant against some solvents Can be Food Grade Compliant	Good Acid and Alkali Resistance Not suitable for most Solvents Maximum Temperature 150°F Hard rubber better resistant than soft
Properties	Very good Water Resistance Good Corrosion Resistance High Temperature Resistant Difficult to repair or to touch-up	Very good Water Resistance Good Corrosion Resistance Less brittle than unmodiffed phenolics	Very good Water Resistance Good Corrosion Resistance Two-pack materials	Good Water Resistance Good Corrosion Resistance Two-pack materials	Good Water Resistance Good Corrosion Resistance Two-pack materials	Good Water Resistance Good Corrosion Resistance Plural Component Appl.	Good Water Resistance Good Corrosion Resistance Two-pack materials	Application using in-situ vulcanizing and adhesives.
approx. dft	8 to 10 mils in multiple coats	8 to 10 mils in multiple coats	12 to 15 mils in 2 coats	12 to 15 mils in 2 coats	12 to 15 mils	12 to 15 mils in 1 coat	10 - 14 mils 2 coats	N/A
Lining System	(Unmodified) High Bake Phenolic (400°F)	(Modified) High Bake Phenolic (400°F)	(Modified) High Bake Epoxy/Amine (400°F)	(Modified) Low Bake Epoxy/Amine (250°F)	Epoxy/Phenolic/Amine air-dry or force curing	Epoxy/Amine Solvent Free. Air dry of Force Curing (*)	Epoxy/Polyamidoamine Force curing	Rubber Sheet Lining

Figure 19

The state of the s

TABLE 2: Lining Condition Matrix

9,01			Lining Condition	dition	
Complete	Defect		Good	Fair	Poor
Extended Life Cycle	Type	Excellent A	B	C	Ω
70 30 0	7000	No Defects	No Defects		V No. 6 ▼
% 57 - 0	Clack	No Defects	> No. 8 (2.5%)	> No. 6 (15%)	> No. 6 (45%)
	Dilster	No Defects	No Defects	> Re 1	> Re 2
	Collosion	> 8 mils	> 7 mils	> 6 mils	<6 mils
	OF I	No Snots	No Spots	< 10 Sq. Ft	> 10 Sq. Ft
79 67	Statilis	No Defects	No Defects		> No. 6
% 74- 07	Dister	No 6 (2.5%)	> No. 6 (15%)	> No. 4 (45%)	> No. 2 (15%)
	Dister	No Defects	No Defects	< Re 2	< Re 2
	Collosion	7 mile	> 7 mils	> 6 mils	< 6 mils
		Similar Value	No Spots	< 20 Sq. Ft	> 20 Sq. Ft
	Stains	No spors	Me Defects	No %	> No. 4
43 - 58 %	Crack	No Defects	NO Defects	V No 4 (15%)	> No. 4 (15%)
	Blister	> No. 6 (2.5%)	V NO. 0 (1570)		/ 00/
	Corrosion	No Defects	No Defects	< Ke 2	- NG 7
	דפת	Sim y S	> 5 mils	< 5 mils	< 5 mils
	Ur.	No Sports ON	< 10 Sq. Ft	< 20 Sq. Ft	> 20 Sq. Ft
	Stains	and on it	Mo Defecte	> No. 6	V No. 4
59 - 83 %	Crack	No Defects	NO Defects	(%) () () () ()	No 2 (45%)
	Blister	No. 6 (15%)	Vo. 4 (15%)	(8/C1) 7 (0) (8/C1) /8)	/ Do. 2 (10/2)
	Corrosion	No Defects	No Defects	< Ke 2	7 24 7
	DFT	> 5 mils	> 5 mils	> 5 mils	
	Stains	< 10 Sq. Ft	< 10 Sq. Ft	< 20 Sq. Ft	> 20 Sq. Ft
,0 00	700-0	No Defects	No Defects	> No. 4	V No. 4
× 85 %	Clack	No 4 (15%)	> No. 4 (15%)	> No. 4 (15%)	> No. 4 (15%)
	ם וופובו	No Pofeets	No Defects	< Re 2	< Re 3
	Cortosion	STATE ON I	1,5 5 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	> 5 mils	< 5 mils
	DFT	> 5 mils	/ J Mills	< 20 So Ft	> 20 Sq. Ft
	Stains	< 10 Sq. Ft	< 10 3q. rt	1 - ho 07 /	

L	Work Instruction:	Sketch/Description:			
<u></u>	1. Blistering A phenomenon peculiar to painted surfaces is the formation of blisters relative to some system weakness. This procedure describes the procedure for determining the size and density of the blisters so that comparisons can be made.				2.5% BLISTERS COVER TOTAL AREA FEW
	Procedure Inspect the lining surface for evidence of blistering. Match the visual standards with the actual condition of the lining to determine the size and frequency of the blistering. Size – There are 5 degrees of size on a numerical scale.				15% BLISTERS
	Number 10 - no blistering Number 8 - smallest blistering Number 6 - Small blistering				COVER TOTAL AREA MEDIUM
	Number 2 - Large blistering Frequency - There are 3 degrees of frequency for each category of size which describe the density of the number of blisters formed in a local area				46% BLISTERS COVER TOTAL AREA
:	Code M. Medium Dense Code M. Medium 3850				MEDIUM DENSE
	Code F- Few Reporting: Record the size of the largest area of damage. This will be a No. code. Record the density of the largest area of damage. This will be a letter code. Record the density of the largest area of damage. This will be a letter code. Indicate weather the Blistering is scattered or localized If it is localized indicate the number of areas	Blister size No B	Blistor size No 6	Blister size No 4	Blister size No 2
-		3800	3810	3850 38	384

Figure 21

3920

3900

3410

there are the time that the test to the test the test to the test to the tank that the test to the test to the

Š. 2 3940 ₹ • Sketch/Description: Code S. Sigmoid Type – Cracking in which the breaks in the film form a pattern consisting of curves meeting and intersecting usually on a large scale. See adjacent Visual Standards Since the type and degree of failure may vary over any given area, a representative portion should be rated. Cracking is a condition that occurs when there is a break in the film surface that extends to Reporting: Record the combination size and density of the largest area of damage. This will be a No. Visually compare the surface with the photographic reference standards to determine the Code L. Line Type - Cracking in which the breaks in the film are generally arranged in the substrate. Where this is difficult to determine the break should be evaluated with a minimum of 10X magnification and only be called a crack if the underlying surface is Code I. Irregular Pattern Type - Cracking, in which the breaks in the film are in no parallel lines, usually horizonially or vertically over the surface. Indicate weather the cracking is scattered or localized Record the type of cracking. This will be a letter code. If it is localized indicate the number of areas size and density of the cracking. Three categories of cracking: Work Instruction: Cracking definite pattern. Procedure

Figure 23

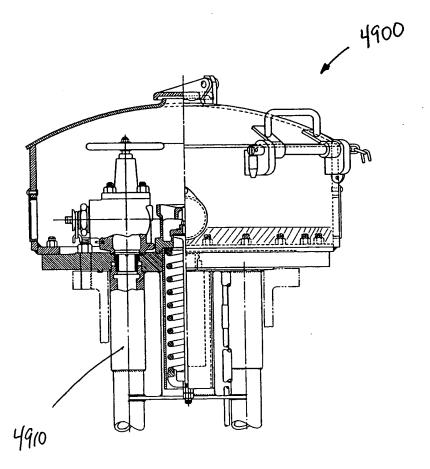


Figure 24a

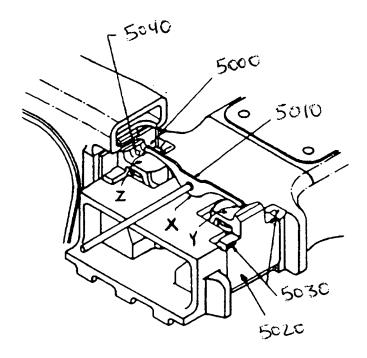


Figure 24b

From the first through the fir	Figur		503C		
Type of Truck	Repair When Total Clearance Between Bolster and Truck Side Frame Columns Reaches:		Repair to These Nominal Clearanc Dimensions Between Bolster and Truck Side Frame:		
	Lateral (inches)	Longitudinal (inches)	Lat Inside (inches)	Outside (inches)	Total Longitudinal (inches)
Trucks WITH built-in snubbing features having roller bearings which provide lateral (all bearing sizes): or having 5" x 9" or 5 ½" x 10" roller bearings which provide no bearing lateral.	1 1/8"	*	1/4"	1/4"	*
Trucks with built-in snubbing features having 6" x 11", 6 ½" x 12" or 7" x 12" roller bearings which provide no bearing lateral.	1 ½"	*	1/2" **	1/2" **	*

^{*} Longitudinal clearances are primarily a matter of wear of frame or bolster column wear plates, friction shoes and bolster or frame column surfaces. See maintenance instructions from truck designer of manufacturer.

^{** 1/4&}quot; and 5/8" clearances are acceptable on bolsters manufactured prior to 1987.

Figure 24c

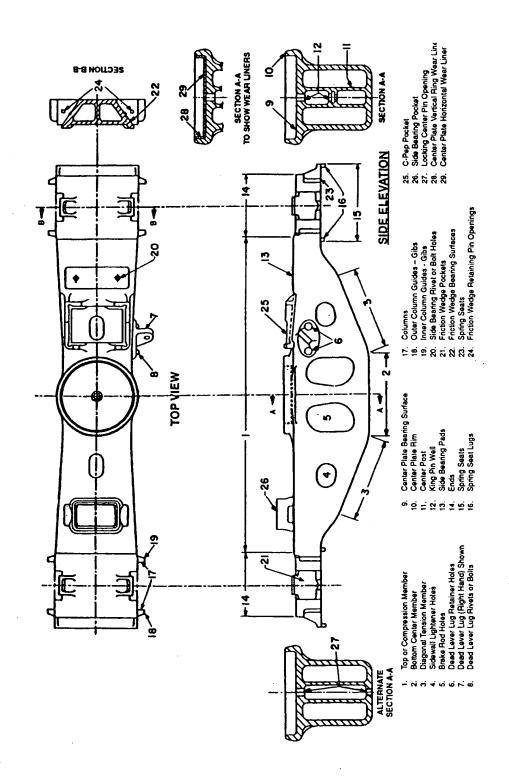


Figure 24d

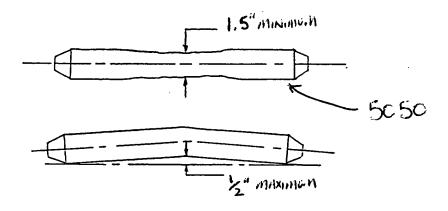


Figure 24e

			Pittsburgh Steel		······································	
<u>Bettendorf</u>	<u>Buckeye</u>	<u>ASF</u>	Foundry		Scullin St	<u>eel</u>
UT456	3-1776	7273	3-1673	4665	5364	5869-B
Dresser	F-420	7323	3-1674	4770	5364-C	5917-A
TF5105	F-535	21182	4-1862	4891	5364-E	6260-C
Dominion		21362	4-2045	4942	5413-B	6260-D
TF-5100			12897	5171	5483-A	6428-A
Canadian Steel			12921	5220	5483-B	6577-A
Foundry			21263	5321-A	5600-A	6656
26565				5321-B	5600-B	6673-A
20303				5321-C	5600-C	7207
	·			5321-F	5811-A	42-CS-180
				5321-H	5869-A	

Figure 24f

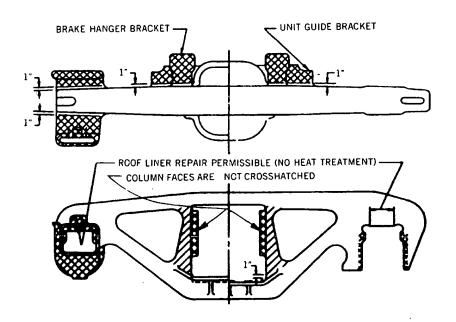
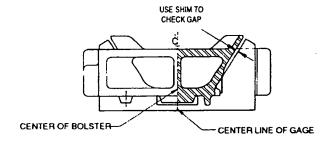
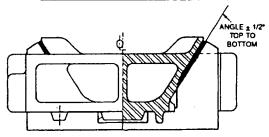


Figure 24g



GAGE IN WORN BOLSTER POCKET



GAGE IN REPAIRED BOLSTER POCKET

AAR Designation	Load Carrying Spring Condemning Free Height
D3	8 5/8"
D4	9 1/16"
D5	9 5/8"
D6	9 5/16"
D6A	8 3/8"
D7	10"

Figure 25a

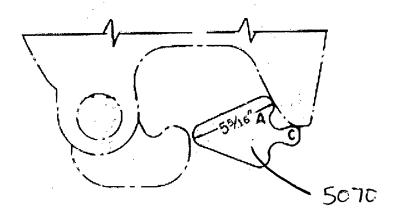


Figure 25b

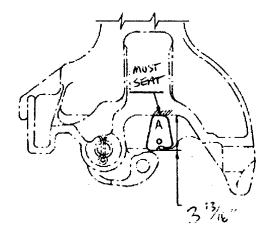


Figure 25c

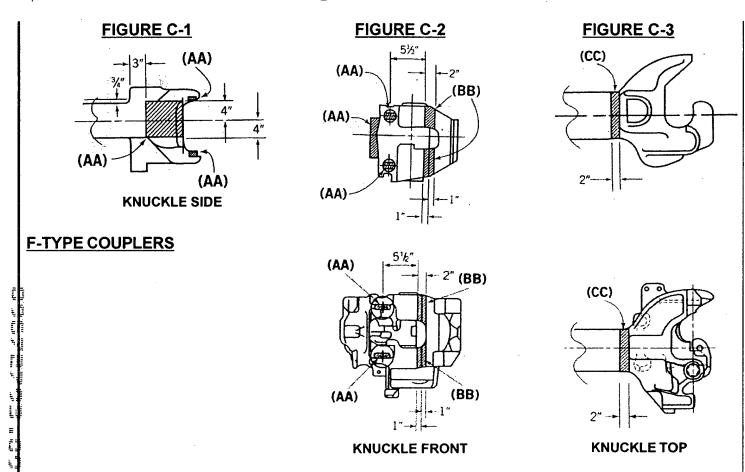


Figure 25d

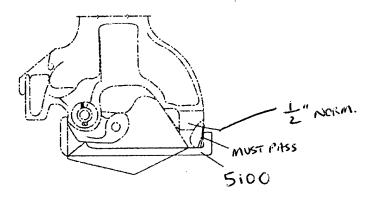
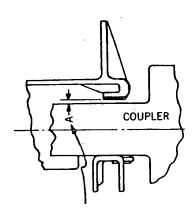


Figure 25e



The stand for the standard of the standard of

Figure 25f

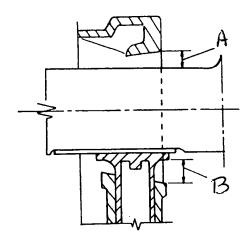


Figure 25g

Coupler Type	Min. Clearance Top of Shank to Striker Dimension "A" (inches)	Min. Clearance Spring Basket Top to Underside of Carrier Lip. Dimension "B" (inches)
F70, F71, F72, SF70 29 ¼" Length	1 1/8"	1 5/8"
F79, SF79 43" Length	2 3/8"	3 ½"

Figure 25h

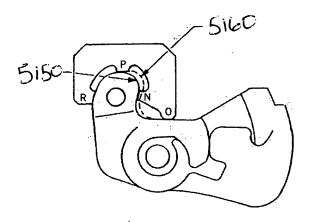


Figure 25i

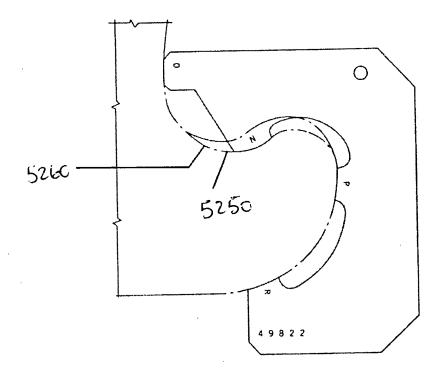


Figure 25j

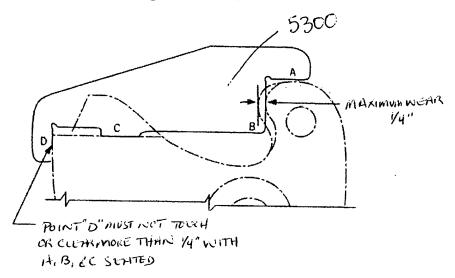
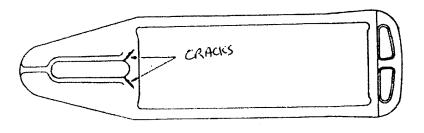


Figure 25k

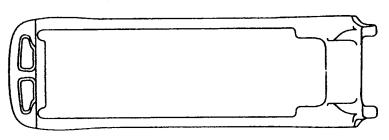


Y40, SY40, OR YS93 DESIGN YOKES

FOR USE WITH TYPE E COUPLER

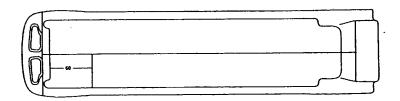
Y41 DESIGN YOKES

FOR USE WITH TYPE E COUPLER



Y45 DESIGN YOKES

FOR USE WITH TYPE E/F AND F COUPLERS



Y49 DESIGN YOKES

FOR USE WITH TYPE E/F AND F COUPLERS

<u>Figure 26a</u>

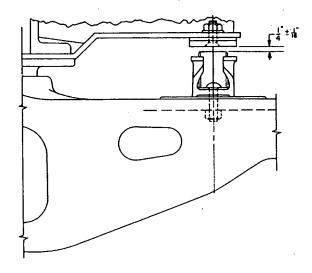


Figure 26b

